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VEDDER PRICE KAUFMAN & KAMMHOLZ			HSU, JONI	
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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/981,484	Applicant(s) CALLWAY, EDWARD G.	
	Examiner Joni Hsu	Art Unit 2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 2-17 and 23-28 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1, 18-22, 29-39 is/are rejected.
- 7) ☒ Claim(s) 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract is 166 words in length and therefore exceeds 150 words.

### *Claim Objections*

2. Claim 30 is objected to because of the following informalities: Claim 30 recites "*of video* of rendered video" where it should recite "*of rendered video*". Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites the limitations "the substep" and "the value of the first device". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Grigor (US006023281A).

Grigor describes a video driver system comprising a first graphics device (112, Figure 3) having an input (Col. 5, lines 41-43) and a first video component output to provide a first video output component signal (Col. 5, lines 57-60); a second graphics device (116) having an input

(Col. 5, lines 41-45) and a first video component output to provide a first video output component signal (Col. 5, lines 57-60); a first video output port (101) coupled to the first video component output of the first graphics device and the first video component output of the second graphics device (Col. 5, lines 57-60); and a second video output port (118) coupled to the first video component output of the second graphics device (Col. 5, lines 60-63).

Thus, it reasonably appears that Grigor describes or discloses every element of the claim and therefore anticipates the claim subject.

7. Claim 19 is rejected under 35 U.S.C. 102(e) as being anticipated by Hung (US006760025B1).

Hung describes a method of providing a video signal, the method comprising generating a first signal (28, Figure 2A) at a first device (8, Figure 1; Figure 2A, 20), wherein the first signal is representative of a first video output component (Col. 3, lines 13-16); providing the first signal to a first node (22); determining a value of the first signal at a first output node (Col. 3, lines 19-21); generating a second signal (30) at a second device (24), wherein the second signal is representative of a first video output component; providing the second signal of the second device to the first output node (Col. 3, lines 19-21); and adjusting the second device until a value of the second signal at the first output node substantially matches the determined value of the first signal at the first output node (Col. 3, lines 21-30).

Thus, it reasonably appears that Hung describes or discloses every element of the claim and therefore anticipates the claim subject.

*Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grigor (US006023281A) in view of Pesto (US005799204A).

Grigor was relied upon for the teachings as discussed above relative to Claim 1.

However, Grigor does not teach that a monitor is coupled to the first video output port. However, Pesto describes a video driver system comprising a first graphics device (41, Figure 4) having a first video component output to provide a first video output component signal; a second graphics device (42) having a first video component output to provide a first video output component signal; a first video output port (46) coupled to the first video component output of

the first graphics device and the first video component output of the second graphics device; and a monitor (391) is coupled to the first video output port (Col. 8, lines 23-26).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Grigor so that a monitor is coupled to the first video output port as suggested by Pesto because Pesto suggests that the reason for using this design to display video on a monitor is that personal computers have limitations on the physical space inside the computer's housing. In practice, buses are limited in the number of slots they can have for receiving various slot connectors. In addition, an advanced graphics controller usually has many processing and memory components, all or which may not easily fit on a single circuit board attached to a single bus slot (Col. 2, lines 7-24). Therefore, this design is advantageous to display video on a monitor in that it has a plurality of slots for receiving slot connectors for peripheral-type devices (Col. 2, lines 25-30) so that there is enough space for all of the components.

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hung (US006760025B1) in view of Krenik (US005596583A).

Hung is relied upon for the teachings as discussed above relative to Claim 19.

However, Hung does not specifically teach that the value of the first and second signals is a voltage value. However, Krenik describes test circuitry for graphics processors that has a comparator circuit (141, Figure 6d) that makes voltage comparisons (Col. 9, lines 33-46).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Hung so that the value of the first and second signals is a

voltage value as suggested by Krenik because the comparator inherently can only read voltage values. Using a comparator to make voltage comparisons is well-known in the art and can be found in many publications.

12. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hung (US006760025B1) in view of Davis (US006009487A).

Hung is relied upon for the teachings as discussed above relative to Claim 19.

However, Hung does not teach that the step of determining includes the substep of modifying and comparing the value of the first device until the value of the first signal substantially matches a predetermined value. However, Davis describes a video driver system comprising a master graphics controller (11, Figure 1) and slaves (12; Col. 4, lines 51-59). Davis describes modifying and comparing the value of the first device until the value of the first signal substantially matches a predetermined value (Col. 5, lines 31-39; Col. 1, lines 26-55).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Hung to include the substep of modifying and comparing the value of the first device until the value of the first signal substantially matches a predetermined value as suggested by Davis. Davis cites Horowitz (US005254883A) as prior art (Col. 1, lines 26-29), and Horowitz describes that this method is advantageous because it makes sure that the current is always the same regardless of load and operating conditions (Col. 1, lines 58-60), and it minimizes current variations when there are variations in supply voltage, temperature, and processing (Col. 2, lines 40-43). Current variations lead to voltage level variations, and voltage



variations can in turn lead to erroneous reading, which can result in the loss of data and other errors (Col. 2, lines 13-20), so this method is advantageous in that it avoids current variations.

13. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kehlet (US005956046A) in view of Emery (US005185858A), further in view of Grigor (US006023281A).

Kehlet describes a video driver system comprising a first frame buffer (202A, Figure 3) having an input (Col. 5, lines 49-51) and a first video component output (222A) to provide a first video output component signal (Col. 5, lines 51-53); a second frame buffer (202B) having an input (Col. 5, lines 49-51) and a first video component output (222B) to provide a first video output component signal (Col. 5, lines 51-53); a first video output port (220) coupled to the first video component output of the first frame buffer and to the first video component output of the second frame buffer (Col. 5, lines 51-53); wherein the first frame buffer has a rendered frame of video and provides the rendered frame to the first video output port, and wherein the second frame buffer has a rendered adjacent frame of video and provides the adjacent frame to the first video output port (Col. 6, lines 13-22).

However, Kehlet does not teach that two different graphics devices render the frame of video and the adjacent frame of video and that the system includes a second video output port coupled to the first video component output of the second graphics device. However, Emery describes a first graphics device (31, Figure 2) having a first video component output to provide a first video output component signal; a second graphics device (32) having a first video component output to provide a first video output component signal (Col. 2, lines 61-68); a first

video output port (65) coupled to the first video component output of the first graphics device and to the first video component output of the second graphics device (Col. 3, lines 9-25); wherein the first graphics device renders a frame of video and provides the rendered frame to the first video output port, and wherein the second graphics device renders a frame of video and provides the frame to the first video output port (Col. 2, line 61-Col. 3, line 25).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Kehlet so that two different graphics devices render the frame of video and the adjacent frame of video as suggested by Emery because Emery suggests the advantage of being able to process multiple graphic processes at the same time (Col. 1, lines 24-59).

However, Kehlet and Emery do not teach that the system includes a second video output port coupled to the first video component output of the second graphics device. However, Grigor describes a video driver system comprising a first graphics device (112, Figure 3) having an input (Col. 5, lines 41-43) and a first video component output to provide a first video output component signal (Col. 5, lines 57-60); a second graphics device (116) having an input (Col. 5, lines 41-45) and a first video component output to provide a first video output component signal (Col. 5, lines 57-60); a first video output port (101) coupled to the first video component output of the first graphics device and the first video component output of the second graphics device (Col. 5, lines 57-60); and a second video output port (118) coupled to the first video component output of the second graphics device (Col. 5, lines 60-63); wherein the first graphics device renders a frame of video and provides the rendered frame to the first video output port, and

wherein the second graphics device renders a frame of video and provides the frame to the first video output port (Col. 5, lines 56-63).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Kehlet and Emery to include a second video output port coupled to the first video component output of the second graphics device as suggested by Grigor because Grigor suggests the advantage of being able to show a different display for the second graphics device (Col. 5, lines 60-63).

14. Claims 30, 31, 34, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kehlet (US005956046A) in view of Emery (US005185858A).

15. With regard to Claim 30, Kehlet describes an apparatus for providing video signals comprising a first frame buffer (202A, Figure 3) having a rendered first frame of video; a second frame buffer (202B) having a rendered second frame of video; and a common port (230), operatively coupled to receive the first and second frames of rendered video from either of the first and second frame buffers (Col. 6, lines 13-22).

However, Kehlet does not teach that two different graphics devices render the first and second frames of video. However, Emery describes using two different graphics devices (31, 32, Figure 2) to render the video (Col. 2, lines 61-67); and a common port (65), operatively coupled to receive the video from either of the first and second graphics devices (Col. 2, line 61-Col. 3, line 32), as discussed in the rejection for Claim 29.

16. With regard to Claim 31, Kehlet describes a first frame buffer (202A, Figure 3) and a second frame buffer (202B; Col. 5, lines 46-49).

However, Kehlet does not teach that the first frame buffer is operatively coupled to the first graphics device and the second frame buffer is operatively coupled to the second graphics device. However, Emery describes a first frame buffer (35, Figure 2) operatively coupled to the first graphics device (31) and a second frame buffer (47) operatively coupled to the second graphics device (32) (Col. 2, line 61-Col. 3, line 10).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Kehlet so that the first frame buffer is operatively coupled to the first graphics device and the second frame buffer is operatively coupled to the second graphics device as suggested by Emery because Emery suggests that it is advantageous for each graphics device to have its own frame buffer so that the graphics device does not have to start and stop. If there were only one frame buffer, the frame buffer would tend to be somewhat overloaded and the speed of operation would be reduced (Col. 1, lines 24-35). Each process requires full access of a frame buffer to produce the desired images without competing for the frame buffer or destroying any of the contents of the frame buffer. In order to have the desired display, the multiple graphic processes should not both be put through the same frame buffer (Col. 1, lines 49-59).

17. With regard to Claim 34, Kehlet does not teach that the first graphics device includes a controller operative to select video from the second graphics device to be output to the common port. However, Emery describes a priority decoder (63, Figure 2) that is part of the first graphics

device (31; Col. 3, lines 28-32). If the priority decoder determines to use the second graphics device, the priority decoder will instruct the analog video switch to select video from the second graphics device to be output to the common port (Col. 3, lines 16-25). Therefore, the first graphics device includes a controller operative to select video from the second graphics device to be output to the common port.

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Kehlet so that the first graphics device includes a controller operative to select video from the second graphics device to be output to the common port as suggested by Emery because Emery suggests the advantage that the first graphics device can determine what video to select based on priority (Col. 3, lines 16-25), so this method has the advantage of being able to display the video with the most priority.

18. With regard to Claim 38, Kehlet describes that the first frame buffer (202A, Figure 3) and second frame buffer (202B) are a part of the graphics accelerator (40A; Col. 5, lines 46-49), which is the same as a video graphics adapter.

However, Kehlet does not teach that the first graphics device and second graphics device are video graphics adapters. However, Emery describes that the first graphics device (31, Figure 2) and second graphics device (32) are video graphics adapters. According to the Webopedia Online Encyclopedia, a video graphics adapter is a board that plugs into a personal computer to give it display capabilities. Since Emery describes that the graphics devices process data for display (Col. 1, lines 42-48; Col. 2, lines 61-67), they must inherently be video graphics adapters.

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Kehlet so that the first graphics device and second graphics device are video graphics adapters as suggested by Emery because Emery suggests that this method is advantageous to use for video graphics adapters because it speeds up the operation and provides an optimal display on the CRT (Col. 1, lines 24-59).

19. With regard to Claim 39, Kehlet describes that the first and second rendered frames are adjacent frames of video (Col. 6, lines 13-22).

20. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kehlet (US005956046A) in view of Emery (US005185858A), further in view of Wunner (US005095280A).

With regard to Claim 32, Kehlet and Emery are relied upon for the teachings as discussed above relative to Claim 31. Kehlet describes at least one digital to analog converter (230, Figure 3) operatively coupled to output video (240; Col. 6, lines 13-22).

However, Kehlet and Emery do not teach that the voltage is adjusted in order to correlate video out voltages being provided by at least one of the graphics devices. However, Wunner describes a first graphics device (100, Figure 1), a second graphics device (102), and a common port (110), operatively coupled to receive the video from either of the first and second graphics devices. Wunner describes having voltage adjusted in order to correlate video out voltages being provided by at least one of the graphics devices (Col. 8, lines 1-14).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Kehlet and Emery so that the voltage is adjusted in order to correlate video out voltages being provided by at least one of the graphics devices as suggested by Wunner. This is well-known in the art and can be found in many applications, such as Deering, which will be described in the rejection for Claim 33. Deering suggests that a system utilizing two or more video monitors displaying related or contiguous images generated by two or more computers may exhibit aberrations in the viewed images because the computers do not operate from a single timing reference (Col. 3, lines 12-18). Wunner describes that adjusting the frequency means adjusting the voltage (Col. 8, lines 1-14). Therefore, it would be advantageous for the voltage to be adjusted in order to correlate video out voltages being provided by at least one of the graphics devices to avoid exhibiting aberrations in the viewed images.

21. Claim 33, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kehlet (US005956046A) in view of Emery (US005185858A), further in view of Deering (US005963200A).

22. With regard to Claim 33, Kehlet and Emery are relied upon for the teachings as discussed above relative to Claim 30.

However, Kehlet and Emery do not teach a circuitry operative to provide digital to analog conversion voltage equalization associated with the first and second graphics devices. However, Deering describes an apparatus for providing video signals comprising a first graphics device (14, Figure 2) operative to render a first frame of video and a second graphics device (14)

operative to render a second frame of video. Deering describes a circuitry operative to provide digital to analog conversion frequency equalization (Col. 4, line 57-Col. 5, line 45). According to Wunner, adjusting the frequency means adjusting the voltage (Col. 8, lines 1-14). Therefore, Deering describes a circuitry operative to provide digital to analog conversion voltage equalization.

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Kehlet and Emery to include a circuitry operative to provide digital to analog conversion voltage equalization associated with the first and second graphics devices as suggested by Deering because Deering suggests that a system utilizing two or more video monitors displaying related or contiguous images generated by two or more computers may exhibit aberrations in the viewed images because the computers do not operate from a single timing reference (Col. 3, lines 12-18). Therefore, it is advantageous to include a circuitry operative to provide digital to analog conversion frequency or voltage equalization because it avoids exhibiting aberrations in the viewed images.

23. With regard to Claim 36, Kehlet and Emery do not teach that the first graphics devices acts as a master to the second graphics device and provides synchronization control for the second graphics device. However, Deering describes that the first graphics device (14, Figure 2) acts as a master to the second graphics device (14) and provides synchronization control for the second graphics device (Col. 5, lines 22-45).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Kehlet and Emery so that the first graphics devices acts as a



master to the second graphics device and provides synchronization control for the second graphics device as suggested by Deering because Deering suggests the advantage that the master provides a single timing reference (Col. 5, lines 22-45). A system utilizing two or more video monitors displaying related or contiguous images generated by two or more computers may exhibit aberrations in the viewed images because the computers do not operate from a single timing reference (Col. 3, lines 12-18). Therefore, because the master provides a single timing reference, this method avoids exhibiting aberrations in the viewed images.

24. With regard to Claim 37, Kehlet and Emery does not teach that the first graphics device includes a reference signal generator for the second graphics controller. However, Deering describes that the first graphics devices includes a reference signal generator for the second graphics controller (Col. 5, lines 22-45), as discussed in the rejection for Claim 36.

25. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kehlet (US005956046A) in view of Emery (US005185858A), further in view of Eichenberger (see Prior Art of Record below).

Kehlet and Emery is relied upon for the teachings as discussed above relative to Claim 30.

However, Kehlet and Emery do not teach a load operatively couplable to either one of first and second graphics devices when at least one of the first and second graphics devices is not driving the common port. However, Eichenberger describes the use of a dummy switch with a load coupled to it for charge cancellation of the active switch (pp. 257, 260). In other words, the

switch that is not active or is not driving the common port acts as the dummy switch and has a load coupled to it.

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Kehlet and Emery to include a load operatively couplable to either one of first and second graphics devices when at least one of the first and second graphics devices is not driving the common port as suggested by Eichenberger because Eichenberger suggests the advantage of reducing charge injection by charge cancellation (page 257). The advantages of using dummy switches is well-known in the art and can be found in many publications.

***Allowable Subject Matter***

26. Claim 20 is allowed.

27. The following is a statement of reasons for the indication of allowable subject matter:

The prior art taken singly or in combination do not teach or suggest a method comprising the step of removing the first signal from the first node prior to the step or providing the second signal as recited in Claim 20. This claim is similar to Claim 19 of U.S. patent 6,424,320, to which this application is a continuation of.

***Prior Art of Record***

C. Eichenberger, W. Guggenbuhl, "On Charge Injection in Analog MOS Switches and Dummy Switch Compensation Techniques," *IEEE Transactions on Circuits and Systems*, vol. 37, pp. 256-264, 1990.

"Video Adapter," Jupitermedia Corporation.

[http://www.webopedia.com/TERM/v/video\\_adapter.html](http://www.webopedia.com/TERM/v/video_adapter.html).

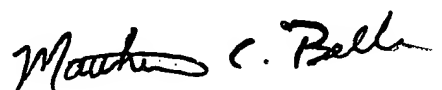
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joni Hsu whose telephone number is 703-305-4418. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on 703-308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JH



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SUPERVISORY PATENT EXAMINER  
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